

### Office Action Summary

**Application No.**

10/636,144

**Applicant(s)**

COVERDILL ET AL.

**Examiner**

Jungwon Chang

**Art Unit**

2154

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_\_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. This action is in response to amendment filed on 12/13/07. Claims 6, 13, 20 have been canceled, and new claims 56-61 have been added.
2. This Action is Final.
3. Claims 1-5, 7-12, 14-19 and 21-61 are presented for examination.
4. The 101 rejection to claims 46-55 is withdrawn in view of amended claims.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-5, 7, 10-12, 14, 26-30, 34-40, 44-50 and 54-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. (US 2002/0169861), hereinafter Chang, in view of Moriarty (US 7,124,173).
7. As to claims 1, 12 and 14, Chang discloses the invention as claimed, including a method for monitoring the availability of resources in a network (page 1, 0002),

comprising the computer implemented steps of:

receiving an activity announcement *message* from a node in the network (page 3, 0049, "periodically sends heart beat messages");

determining that the node is potentially inactive if no successive activity announcement *message* is received from the node within a specified first time period (page 7, claim 9, "potentially failed node");

determining that the node is inactive if no successive activity announcement *message* is received from the node within a specified second time period (page 4, 0064, "a grace period is established...adapter finally declared dead"; page 8, claim 16); and

detecting that the node or a connection to the node is active if an activity announcement *message* is received from the node within the specified first time period (page 4, 0059, "when no heart beat messages are received for a predetermined period of time"; 0064, "if the remote node and adapter are alive, then...replies with an ICMP echo-reply message").

8. Chang discloses activity announcement *message*. However, Wang does not specifically disclose activity announcement packet. Moriarty discloses activity announcement packet (fig. 2; col. 7, lines 26-39 and 59-65). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Chang and Moriarty because Moriarty's activity announcement packet would improve the quality of service by using the information within the packet in order to determine the activity between a sender and a recipient (Moriarty; col. 4, lines 35-38;

Art Unit: 2154

col. 7, lines 26-39).

9. As to claim 2, Chang discloses a method as recited in Claim 1, wherein the determining steps comprise the steps of:

initiating a first timer when the activity announcement *message* is received from the node (page 7, claim 9); and

initiating a second timer if no activity announcement *message* from the node is received again within expiration of the first timer (page 4, 0064; page 8, claim 16).

10. As to claim 3, Chang discloses a method as recited in Claim 1, further comprising the steps of:

sending an activity verification message to a node that has been determined to be inactive (page 3, 0049, "periodically sends heart beat messages");

determining that the node is active if a response packet from the node is received within expiration of a specified verification timer (page 4, 0059, 0064).

11. As to claim 4, Chang discloses a method as recited in Claim 2, wherein a first time duration associated with the first timer and a second time duration associated with the second timer are configurable (page 4, 0059, "predefined period of time"; page 4, 0064, "grace period").

12. As to claim 5, Chang discloses a method as recited in Claim 1, wherein the specified first time and the specified second time are configurable (page 4, 0059,

"predefined period of time"; page 4, 0064, "grace period").

13. As to claim 7, Chang discloses a method as recited in Claim 1, further comprising the step of tracking nodes from which activity announcement messages have been received by an index comprising address and connection status information for each such node (page 5, 0074 – page 6, 0075).

14. As to claim 10, it is rejected for the same reasons set forth in claim 1 above.

15. As to claim 11, Chang discloses a method as recited in Claim 1, further comprising the step of receiving network performance data, relating to the node, in association with the activity announcement message (page 5, 0074 – page 6, 0075).

16. As to claim 26, it is rejected for the same reasons set forth in claim 1 above.

17. As to claim 27, it is rejected for the same reasons set forth in claim 2 above.

18. As to claim 28, it is rejected for the same reasons set forth in claim 3 above.

19. As to claim 29, it is rejected for the same reasons set forth in claim 4 above.

20. As to claim 30, it is rejected for the same reasons set forth in claim 5 above.

21. As to claim 34, it is rejected for the same reasons set forth in claim 10 above.
22. As to claim 35, it is rejected for the same reasons set forth in claim 11 above.
23. As to claim 36, it is rejected for the same reasons set forth in claim 1 above. In addition, Chang discloses a processor; and one or more stored sequences of instructions that are accessible to the processor and which, when executed by the processor, cause the processor to carry out the steps (page 8, claim 18).
24. As to claim 37, it is rejected for the same reasons set forth in claim 2 above.
25. As to claim 38, it is rejected for the same reasons set forth in claim 3 above.
26. As to claim 39, it is rejected for the same reasons set forth in claim 4 above.
27. As to claim 40, it is rejected for the same reasons set forth in claim 5 above.
28. As to claim 44, it is rejected for the same reasons set forth in claim 10 above.
29. As to claim 45, it is rejected for the same reasons set forth in claim 11 above.

Art Unit: 2154

30. As to claim 46, it is rejected for the same reasons set forth in claim 1 above. In addition, Chang discloses a computer storage readable medium carrying one or more sequences of instructions for monitoring the availability of network resources, wherein the execution of the one or more sequence of instructions by one or more processors causes the one or more processors to perform the steps (page 8, claim 18).

31. As to claim 47, it is rejected for the same reasons set forth in claim 2 above.

32. As to claim 48, it is rejected for the same reasons set forth in claim 3 above.

33. As to claim 49, it is rejected for the same reasons set forth in claim 4 above.

34. As to claim 50, it is rejected for the same reasons set forth in claim 5 above.

35. As to claim 54, it is rejected for the same reasons set forth in claim 10 above.

36. As to claim 55, it is rejected for the same reasons set forth in claim 11 above.

37. As to claim 56, Chang does not specifically disclose configuring a destination address to which a node sends the activity announcement packets. Moriarty discloses configuring a destination address to which a node sends the activity announcement packets (fig. 2; col. 7, lines 10-39, "destination address"). It would have been obvious to

Art Unit: 2154

one of ordinary skill in the art at the time of the invention was made to combine the teachings of Chang and Moriarty because Moriarty's destination address would transmit the activity announcement packets to the intended destination node (col. 7, lines 10-39, "destination address").

38. As to claim 57, Chang discloses configuring an interval by which a node sends successive activity announcement messages (page 4, 0059, "predefined period of time").

39. As to claim 58, Chang discloses formatting the activity announcement messages (page 3, 0043, "ICMP echo request messages"; 0046-0047).

40. As to claim 59, Chang does not specifically disclose authenticating the activity announcement messages. Moriarty discloses authenticating the activity announcement messages (col. 8, lines 14-32, "firewall"; col. 9, lines 25-50). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Chang and Moriarty because Moriarty's authenticating the messages would improve the security of Chang's system, as taught by Moriarty (col. 10, lines 4-21).

41. As to claim 60, Chang discloses resetting the first and second timers (page 4, 0065, "reset to zero").



Art Unit: 2154

42. Claims 8, 9, 32, 33, 42, 43, 52 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang, Moriarty in view of Haynes et al. (US 6,993,681), hereinafter Haynes.

43. As to claim 8, Chang does not specifically disclose displaying, in a management application, the connection status of the nodes that are tracked in the index. However, Haynes discloses displaying, in a management application, the connection status of the nodes that are tracked in the index (col. 14, line 31 – col. 15, line 27). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Wang, Moriarty and Haynes because Haynes's displaying the connection status of the nodes would allow remote administration in distributed system (Haynes, col. 1, lines 6-8; col. 2, lines 21-32).

44. As to claim 9, Chang discloses a method as recited in Claim 8, further comprising the step of periodically removing from the index entries for nodes that have remained inactive for a specified amount of time (abstract, "node deletion").

45. As to claims 32, 42 and 52, they are rejected for the same reasons set forth in claim 8 above.

46. As to claims 33, 43 and 53, they are rejected for the same reasons set forth in claim 9 above.

47. Claims 15-21 and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang, in view of Moriarty, Donzis et al. (US 6,976,071), hereinafter Donzis.

48. As to claim 15, Chang discloses a method for monitoring the availability of remote sites in a network (page 1, 0002), comprising the computer-implemented steps of:

receiving an activity announcement *message* from a router (network adapter) in the network (page 3, 0049, "periodically sends heart beat messages");

determining that the router is potentially inactive if no successive activity announcement *message* is received from the node within a specified first time period (page 7, claim 9, "potentially failed node"); and

determining that the router is inactive if no successive activity announcement *message* is received from the node within a specified time period (page 4, 0064, "a grace period is established...adapter finally declared dead"; page 8, claim 16).

49. Chang discloses activity announcement *message*. However, Wang does not specifically disclose activity announcement packet. Moriarty discloses activity announcement packet (fig. 2; col. 7, lines 26-39 and 59-65). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Wang and Moriarty because Moriarty's activity announcement packet

Art Unit: 2154

would improve the quality of service by using the information within the packet in order to determine the activity between a sender and a recipient (Moriarty; col. 4, lines 35-38; col. 7, lines 26-39).

Chang does not specifically disclose a virtual private network. Donzis discloses virtual private network (col. 1, lines 35-59). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Wang and Donzis because Donzis' VPN would provide communications protected by a security protocol (Donzis, col. 1, lines 35-59).

50. As to claim 16, Chang discloses a method as recited in Claim 15, wherein the determining steps comprise the steps of:

initiating a first timer when the activity announcement *message* is received from the router (page 7, claim 9); and

initiating a second timer if no activity announcement *message* from the router is received again within expiration of the first timer (page 4, 0064; page 8, claim 16).

51. As to claim 17, Chang discloses a method as recited in Claim 16, wherein the specified first time and the specified second time are configurable (page 4, 0059, "predefined period of time"; page 4, 0064, "grace period").

52. As to claims 18-21 and 23-25, Chang discloses determining that the router and

the connection to said router is inactive if no activity announcement packet is received from the router is received after the first or second timer expires (page 4, 0064; page 5, 0074 – page 6, 0075).

53. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chang, in view of Moriarty, Donzis in view of Haynes et al. (US 6,993,681), hereinafter Haynes.

54. As to claim 22, Chang does not specifically disclose displaying, in a management application, the connection status of the nodes that are tracked in the index. However Haynes discloses displaying, in a management application, the connection status of the nodes that are tracked in the index (col. 14, line 31 – col. 15, line 27). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Chang, Moriarty, Donzis and Haynes because Haynes's displaying the connection status of the nodes would allow remote administration in distributed system (Haynes, col. 1, lines 6-8; col. 2, lines 21-32).

55. Claims 31, 41, 51 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. (US 2002/0169861), hereinafter Chang, in view of Moriarty (US 7,124,173), Pandya (US 2003/0069962).

56. As to claims 31, 41, 51 and 61, Chang discloses a method for monitoring the availability of resources in a network, comprising the computer-implemented steps of:

receiving an activity announcement *message* from a node in the network (page 3, 0049, "periodically sends heart beat messages");

determining that the node is potentially inactive if no successive activity announcement *message* is received from the node within a specified first time period (page 7, claim 9, "potentially failed node");

determining that the node is inactive if no successive activity announcement *message* is received from the node within a specified second time period (page 4, 0064, "a grace period is established...adapter finally declared dead"; page 8, claim 16); and

tracking the nodes from which activity announcement packets have been received (page 4, 0059, "when no heart beat messages are received for a predetermined period of time"; 0064, "if the remote node and adapter are alive, then...replies with an ICMP echo-reply message").

57. Chang discloses activity announcement *message*. However, Wang does not specifically disclose activity announcement packet. Moriarty discloses activity announcement packet (fig. 2; col. 7, lines 26-39 and 59-65). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Chang and Moriarty because Moriarty's activity announcement packet would improve the quality of service by using the information within the packet in order to determine the activity between a sender and a recipient (Moriarty; col. 4, lines 35-38; col. 7, lines 26-39).

Chang does not specifically disclose index comprising address and connection status information for each such node. Pandya discloses index comprising address and connection status information for each such node (page 1, 0009, "status signal has a disconnection signal"; page 2, 0017-0018; page 3, 0028-0030, "status signal that includes information that uniquely identifies each individual client...current connection status...uniquely identifies each client connected to the server"). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Chang and Pandya because Pandya's information would more accurately determine which clients are still connected to the server through the receive heartbeat message, as taught by Pandya (page 4, 0034).

### ***Conclusion***

58. Applicant's arguments filed 12/13/07 have been fully considered but they are not persuasive.

(1) Applicant asserts that Claims 1, 12, 15, 26, 36, and 46 now recite, inter alia, "determining that the node or a connection to the node is active if an activity announcement packet is received from the node within the specified first time period". This feature is not present in the Chang reference or any of the others. The Chang reference discusses nodes but does not disclose any information about the connections to those nodes, as claimed.

The examiner respectfully disagrees. The claim limitation is written in an

alternative form, so the Chang reference does not have to teach both node and a connection to the node. Chang explicitly disclose detecting that the node or a connection to the node is active if an activity announcement message is received from the node within the specified first time period (page 4, 0059, "when no heart beat messages are received for a predetermined period of time"; 0064, "if the remote node and adapter are alive, then...replies with an ICMP echo-reply message").

59. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

60. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jungwon Chang whose telephone number is 571-272-

Art Unit: 2154

3960. The examiner can normally be reached on 6:30-2:00 (Monday-Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jungwon Chang/  
Primary Examiner, Art Unit 2154  
March 11, 2008



**Application Number****Application/Control No.**

10/636,144

**Examiner**

Jungwon Chang

**Applicant(s)/Patent under  
Reexamination**

COVERDILL ET AL.

**Art Unit**

2154